

REMARKS

In addition to the above requested amendments, Applicants submit the remarks below. Applicants respectfully request reconsideration and allowance of the remaining claims in light of these amendments and remarks. Applicants also would like to thank Examiner Collins and Primary Examiner Bui for taking time to discuss this case in a telephone interview on June 5, 2003.

Applicants have cancelled Claims 32, 36, 46, 49, and 53 without prejudice or disclaimer. Applicants also have amended Claims 33-35, 37-45, 47, 48, 50-52, and 53 . No new matter is contained in the amended claims.

I. Rejections under 35 U.S.C. § 112, first paragraph

The Office Action rejected Claims 32, 49, and 38-42 as dependent therefrom, under 35 U.S.C. § 112, first paragraph, as containing subject matter that is not described in such a manner that would reasonably convey to one skilled in the art that the inventors had possession of the invention at the time the application was filed.

Applicants respectfully submit that these rejections are mooted by the Applicants' cancellation of Claims 32 and 49, and the amendments of Claims 38-42. Therefore, Applicants respectfully request that the rejections with respect to the written description requirement be withdrawn.

The Office Action rejected Claims 32-54 under 35 U.S.C. § 112, first paragraph, as not enabling one skilled in the art to make or use the invention commensurate in scope with the claims. The Office Action noted that the specification is enabling for a transgenic plant transformed with the elected nucleic acid of SEQ ID NO:22 encoding the polypeptide of SEQ ID NO:35, said plant exhibiting increased tolerance to drought and freezing stress. The Office Action also noted that the specification is enabling for a transgenic plant transformed with a nucleic that specifically hybridizes to the complement of SEQ ID NO:22, said plant exhibiting increased tolerance to drought and freezing stress. However, the Office Action stated that the specification is not enabling for a transgenic plant transformed with either the elected nucleic

acid of SEQ ID NO:22 or a nucleic acid that specifically hybridizes to the complement of SEQ ID NO:22, said plant exhibiting increased tolerance to drought or freezing stress, or for a transgenic plant transformed with a polynucleotide encoding a polypeptide having at least 80% sequence identity with SEQ ID NO:35, said plant exhibiting increased tolerance to drought and freezing stress.

Applicants respectfully submit that the claims as currently amended are sufficiently supported by the specification to allow one skilled in the art to practice the invention as claimed. With respect to the assertion that transgenic plants having increased tolerance to drought or freezing stress are not enabled, Applicants respectfully submit that Applicants are not required to claim every known characteristic of the invention. To find otherwise in the absence of any prior art would punish Applicants for further characterizing their invention and would not serve the purposes of the patent laws.

Applicants have amended Claims 37, 47, and 54 to recite that transgenic plants comprising a nucleic acid encoding a polypeptide having at least 90% sequence identity with SEQ ID NO:35. Applicants respectfully submit that one of ordinary skill in the art would be able to determine which nucleic acids would be covered by this claim without being subject to undue experimentation. In particular, one of ordinary skill in the art would know which nucleic acids would have at least 90% sequence identity with SEQ ID NO:35, and it would be a routine screening assay to determine if transgenic plants comprising such nucleic acids affect the plant's tolerance to drought and/or freeze stresses. Therefore, because the specification would enable one skilled in the art to make or use the invention commensurate in scope with the claims, in accordance with the agreements reached in the June 5, 2003 interview, Applicants respectfully request that the rejections under 35 U.S.C. § 112, first paragraph be withdrawn.

II. Rejections under 35 U.S.C. § 112, second paragraph

The Office Action rejected Claims 32-54 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the Applicants' invention. In particular, the Office Action stated that certain phrases in these claims render the claims indefinite.

The Office Action rejected Claims 32-35, 37, 42-52, and 54, and Claims 36, 38-41, and 53, as dependent thereon, as being indefinite in the recitation of "Stress-Related Protein" or "PKSRP." Applicants respectfully submit that these rejections are mooted by the amendment of the pending claims to delete the terms "Stress-Related Protein" and "PKSRP."

The Office Action rejected Claims 32, 42, 48-49, 52, and 54 as being indefinite in the recitation of the phrase "low temperature." Applicants have cancelled Claims 32 and 49, and have amended the pending claims to recite the phrase "temperature less than or equal to 0°C" in the place of "low temperature."

The Office Action rejected Claims 33 and 50 as being indefinite in the recitation of the term "MPK-3." Applicants respectfully submit that these rejections are mooted by the amendment of the pending claims to delete this term.

The Office Action rejected Claims 35, 45, and 52 as being indefinite in the recitation of the phrase "hybridizes under stringent conditions." Applicants have cancelled Claims 36, 46, and 53, and have incorporated the limitations of those claims into Claims 35, 45, and 52, respectively. Applicants have also amended the claims to specify that the hybridization conditions include an incubation in a 6X SSC solution at 65°C. Applicants respectfully submit that the pending claims recite specific stringent hybridization conditions.

The Office Action rejected Claim 40 as being indefinite in the recitation of "forage crop." Applicants respectfully submit that this rejection is mooted because Applicants have deleted this term from the claims.

Claims 49, 52, and 54 were rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. Applicants respectfully submit that these claims were amended to more clearly specify that the step of expressing the polypeptide in the transgenic plant is required.

Applicants believe that the cancellation of the certain claims and amendment of the remaining claims have overcome the rejections under 35 U.S.C. § 112, second paragraph, and therefore, Applicants respectfully request that the rejections under 35 U.S.C. § 112, second paragraph be withdrawn.

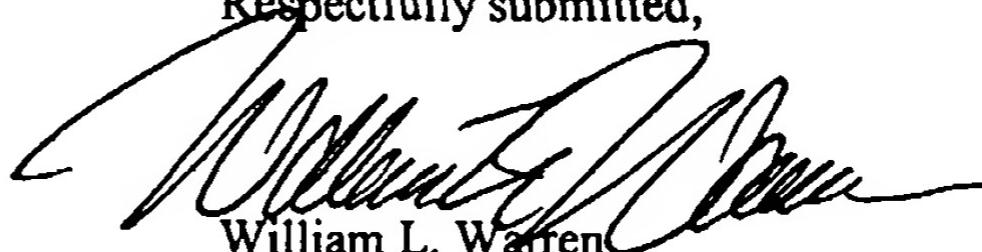
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III. Rejections under 35 U.S.C. § 102

The Office Action rejected Claim 32, and Claims 38-42 as being dependent thereon, as being anticipated by Seo et al. (The Plant Cell, 1999, 11:289-98). Applicants respectfully submit that these rejections are mooted by the cancellation of Claim 32. Accordingly, as the Seo et al. reference does not anticipate the present invention, Applicants respectfully request that the rejections under 35 U.S.C. § 102 be withdrawn.

Applicants believe that the present application, as amended, is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The foregoing is submitted as a full and complete response to the Office Action mailed April 18, 2003. No additional fees are believed to be due, however, the Commissioner is hereby authorized to charge any additional fees due or credit any overpayment to Deposit Account No. 19-5029. If there are any issues that can be resolved by a telephone conference or an Examiner's amendment, the Examiner is invited to call the undersigned attorney at (404) 853-8081.

Respectfully submitted,



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